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09/431,674	11/01/1999	DAVID BAGGETT	09765/017001	9072

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EXAMINER

PORTER, RACHEL L

ART UNIT	PAPER NUMBER
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3626

DATE MAILED: 05/09/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/431,674

Applicant(s)

BAGGETT ET AL.

Examiner

Rachel L. Porter

Art Unit

3626

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 February 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-30 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Notice to the Applicant

1. This communication is in response to the amendment filed on 2/11/03. Claims 1-30 are pending. Claims 1-5, 9, 15, 16, 21-23 and 29 have been amended.

Specification

2. The objection to the disclosure for failing to specifically point out support for the newly added limitations in the amendment filed 8/6/02 is hereby withdrawn due to the amendment filed 2/11/03.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claims 1-14 and 28-30 are rejected under 35 U.S.C. 112, first paragraph, because the specification does not reasonably provide enablement for every conceivable means for achieving each of the recited applications. MPEP §2164.08(a) states the following: "A single means claim, i.e., where a means recitation does not appear in combination with another recited element of means, is subject to an undue breadth rejection under 35U.S.C. 112, first paragraph. In re Hyatt, 708 F.2d 712, 714-715, 218 USPQ 195, 197 (Fed. Cir. 1983) (A single means claim which covered every conceivable means for achieving the stated purpose was held nonenabling for the

scope of the claim because the specification disclosed at most only those means known to the inventor.)”

While claim 1 does not explicitly recite “means-plus-function” language, in *Fiers v. Revel*, (CAFC) 25 USPQ2d 1601, 1606 (1/19/1993), the CAFC affirmed a rejection under 35 USC 112 of a claim reciting a single element that did not literally use “means-plus-function” language. Similarly, the system of claim 1 comprises “a computer system for executing...” various applications, thereby making claim 1 analogous to single means claims. See also *Ex parte Maizel*, (BdPatApp&Int) 27 USPQ2d 1662, 1665 and *Ex parte Kung*, (BdPatApp&Int) 17 USPQ2d 1545, 1547 (1/30/1989) where the claims at issue were rejected for being analogous to single *means* claims even though “means” was not literally used. Consequently, claim 1 is held to be “nonenabling for the scope of the claim because the specification disclosed at most only those means known to the inventor” (MPEP 2164.08(a), making reference to *In re Hyatt*, 708 F.2d 712, 714-715, 218 USPQ 195, 197 (Fed. Cir. 1983)).

Claims 2-14, and 28-30 are dependent from claim 1. These claims therefore inherit the deficiencies of the claim 1 through dependency and are also rejected.

5. Claims 1-30 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

6. Claim 1 recites the limitation “the test”. There is insufficient antecedent basis for this limitation in this claim. Claim 1 does not refer to “a test.” For the purposes of

Art Unit: 3626

examination only, the examiner will interpret this test as referring to an assessment of the quality properties of the availability data.

Claim 13 recites the limitation "the results of the speculative computation" in lines 1-2. There is insufficient antecedent basis for this limitation in this claim. Claims 1, 11 and 13 do not recite a speculative computation and therefore do not recite results of such a computation. For the purposes of applying art, the Examiner will interpret the "speculative computation" to mean the speculative determination of travel options.

Claims 2-14, and 28-30 are dependent from claim 1. These claims therefore inherit the deficiencies of claim 1 through dependency and are also rejected.

7. Claim 15 recites the limitation "the availability process" (lines 7-8). There is insufficient antecedent basis for this limitation in this claim. Claim 15 is an independent claim and does not refer to "*an availability process*."

Claims 16-20 are dependent from claim 15. These claims therefore inherit the deficiencies of claim 15 through dependency and are also rejected.

Claim 21 is vague and indefinite because it is unclear to the Examiner which steps are part of the Applicant's invention (i.e. which steps are included in the method for which coverage is sought). In particular, the phrase "by executing a second set of availability queries to the first or a different source of seat availability information..." does not clearly and positively recite that a step of "executing a second set of seat availability queries" is a distinct step that is *actually performed* in the claimed method. The phrase "by executing a second set..." only serves to further describe the one step

Art Unit: 3626

that is positively performed by the method as it is currently claimed. (i.e. evaluating quality of availability information.)

Claims 22-27 are dependent from claim 21. These claims therefore inherit the deficiencies of claim 21 through dependency and are also rejected.

Statutory Subject Matter

8. To the extent that the Examiner understands the claimed invention recited in claim 15, the Examiner will interpret the Applicant's recitation of "A computer program product for use with a travel planning system..." to mean "A computer program product embodied on a computer readable medium..." and Applicant's recitation of "instructions causing a computer to..." to mean "computer executable instructions for causing a computer to..."

Response to Arguments

9. Applicant's arguments with respect to claims 11-13, 16 and 23 have been considered but are moot in view of the new ground(s) of rejection.

10. Applicant's arguments regarding claims 1-10, 14, 15, 17-22, and 24-30, filed 2/11/03, have been fully considered but they are not persuasive.

(A) On page 6, lines 5-10 of the response filed 2/11/03, the Applicant argues that the Lynch reference does not describe instructions for determining the quality of the availability information. The Applicant further argues that the Lynch travel planning system uses the availability information regardless of its age or source.

In response, the Examiner submits that the Lynch reference does disclose instructions for determining quality properties of the availability data. (col. 6, lines 10-57) The update module determines the age of the availability data (i.e. whether a predetermined time period has lapsed since the data was received). The age of the data is in fact a quality property of the data. If a certain time period has lapsed (i.e. if the data is too old), another query for availability data is submitted to one or more CRS systems.

(B) On page 6, lines 17-19 and 26-28, the Applicant argues that the language of claims 19 and 26 distinguishes over the Lynch reference by reciting that the sources of availability data have different quality properties.

In response, Lynch'094 discloses a system in which the sources of availability data have differing "freshness" qualities. The freshness of the data (i.e. the time that has elapsed since the inventory data was obtained) varies for the sources, especially when the sources are queried sequentially (Figure 3, column 6, lines 11-17). Insofar as the claim recites that *at least one of the qualities* differs, it is respectfully submitted that the claim limitation has been addressed by identifying one of the qualities (i.e. freshness or age of data) that differs for the availability data sources in the system disclosed by Lynch'094.

(C) On page 6, lines 20-22 of the Applicant's response, the Applicant's argue that the claims 21 and 22 distinguishes over the prior art by reciting that the system evaluates the quality of the availability data to guide the system in determining a subsequent set of

available transportation instances and receiving the set of travel instances in response to a user query.

In response, Lynch'094 teaches a method for determining availability of a seat for a mode of transportation (i.e. travel service inventory), comprising: evaluating quality of availability information received from a source of availability information for a set of instances of transportation. (column 2, lines 60-65; figure 3; column 6, lines 11-57; col. 7, lines 29-32, 46-49; col. 9, lines 11-30) The system determines the age of the information (i.e. evaluating a quality property of the availability data received from a data source).

It is respectfully submitted that the current claim language only positively recites the step of evaluating the quality of the data from the source of availability data. As currently claimed, the additional descriptions of how the data *may be* further processed or how it *may be* used in the future (i.e. to determine a set of available travel instance of transportation, to guide a travel planning system in determining a subsequent set of available instances of transportation by executing a second set of availability data) do not affect how the step of evaluating the quality of the availability information is performed. In other words, the current claim language does not clearly and positively recite that this descriptive material (i.e. determining a set of available travel instances; executing a second set of set of seat availability queries to the first source or different source of availability data...) is a part of the claimed invention for which the Applicants seek coverage.

Moreover, Lynch '094 uses the quality evaluation of the availability information to determine a set of available instances and to guide the system in determining a subsequent set of available instances of transportation. In the method disclosed by Lynch, the age of the information is evaluated to determine whether or not a predetermined time period has lapsed since the information was last obtained. (i.e. evaluating quality properties of the availability data) (figure 3, column 6, lines 11-17). The system may then update the stored availability data by querying the one or more of the CRS's if the stored data is too old to find additional information on available instances of transportation (i.e. executing a second set of seat availability queries to the first or a different source of seat availability based on the outcome of the evaluating quality of the availability information.) (figure 3, col. 6, lines 10-57). The method also determines whether the obtained travel data fall within certain parameters, particularly those requested by the user and the updated inventory is repeatedly sifted through to produce candidate pools of solutions (i.e. receiving the set of instances of transportation from a travel planning system in response to a user query.) (col. 4, lines 62-col. 5, line 6; col. 6, line 59-col. 7, line 2)

(D) On page 7, lines 1-20 of the Applicant's response, the Applicant argues distinctions of amended claim 1 over the prior art. The Applicant further argues that Lynch '094 does not disclose or suggest that an availability process that executes a second set of seat availability queries based on the outcome of a test to determine whether the information is reliable or not.

In response, it is respectfully submitted that the Applicant fails to appreciate the vast breadth of the claim(s), as presently recited. For instance, the Applicant asserts that the system of Lynch'094 does not determine quality properties of the availability data or the reliability of the data source. However, the Lynch reference clearly states that the system determines the age of the availability data and also determines how well the availability data meet the certain parameters entered by the user (col. 6, lines 10-61). In other words, the system determines the age and fitness or usefulness of the availability data—two qualities of the availability data.

The current claim language does not provide a definition or description of which qualities are determined by the system and the Applicant fails to point to any specific sections of the specification that define the term "quality properties." Instead, the Applicant apparently relies upon the fact that the claim recites that the quality properties are used to determine whether the data are "reliable." Again, no definition, description, or objective and quantifiable measure of "reliability" is provided in the current claim language or in sections of the specification cited by the Applicant. Therefore, the Examiner has given the claim language the broadest reasonable interpretation.

While the term "reliability" is not expressly disclosed in the cited section of the Lynch'094 reference in connection with the query and results return process and data update process, it is respectfully submitted that one of ordinary skill in the art would have reasonably understood that the age (and fitness) of the availability data are indications of the reliability of the data. The existence of the update module in Lynch'094 at least suggests that outdated availability data could make the data

Art Unit: 3626

unreliable. Consequently, the system submits subsequent queries to one or more CRS's (i.e. the first or a different source seat availability data) based on the outcome of a test (i.e. the evaluation of the whether the availability data is too old and therefore unreliable) to provide a second set of available instances of transportation (i.e. the results returned from the updated queries).

In response to the Applicant's argument that Lynch '094 does not disclose or suggest that the availability process executes a second set of seat availability queries, the Examiner has applied the Lynch'094 reference in a 103 rejection. While the Lynch'094 reference teaches a system with at least one component to perform the recited functionalities of the availability component, it does not expressly state whether a single component (i.e. an availability process) performs all of the recited functions or whether these functions are carried out by more than one component. However, one having ordinary skill in the art at the time of the Applicant's invention would have found it obvious to modify the system of Lynch'094 to have the functions are performed by a single (availability) component as explained in the rejection of claim 1.

(E) On page 8, lines 3-8 of the Applicant's response, the Applicant argues that Lynch does not disclose that the system "speculatively determines travel options using low quality, uncertain, or missing availability data" as recited in claims 11-13. The Applicant further argues that Lynch does not suggest the use of predictors of availability data.

In response, the Applicant's arguments are addressed by the new rejections of claims 11-13.

(F) On page 8, lines 9-12 of the Applicant's response, the Applicant argues that current language of claim 16 is distinguished over the Lynch reference because Lynch sends requests to different CRS's.

In response, the Applicant apparently argues the new limitations recited in claim 16. These new limitations are addressed by the rejection of claim 16 in the present Office Action.

(G) On page 8, lines 13-17 of the Applicant's response, the Applicant argues that claim 23 distinguishes over the prior art because Lynch does not test the quality of the data and therefore cannot direct queries to a different source if the quality of the results is low.

In response, it is respectfully submitted that the Applicant fails to appreciate the vast breadth of the claim(s), as presently recited. For instance, the Lynch'094 reference clearly states that the system determines the age of the availability data and also determines how well the availability data meet the certain parameters entered by the user (col. 6, lines 10-61). In other words, the system determines the age and fitness or usefulness of the availability data—two qualities of the availability data.

The current claim language does not provide a definition or description of which qualities are determined by the system and the Applicant fails to point to any specific sections of the specification that define the term "quality properties." Therefore, the Examiner has given the claim language the broadest reasonable interpretation.

While the terms "high quality" and "low quality" are not expressly disclosed in the cited section of the Lynch'094 reference in connection with the query and results return

process and data update process, one of ordinary skill in the art would have reasonably understood that the age (and fitness) of the availability data are indications of the reliability of the data. The existence of the update module in Lynch'094 at least suggests that outdated availability data could make the data unreliable. Consequently, the system submits subsequent queries to one or more CRS's (i.e. the first or a different source seat availability data) based on the outcome of a test (i.e. the evaluation of the whether the availability data is too old and therefore unreliable) to provide a second set of available instances of transportation (i.e. the results returned from the updated queries).

(H) On page 8, lines 18-23 of the Applicant's response, the Applicant argues that claim 29 overcomes the prior art because Lynch does not suggest that the queries sent to increase the number of travel solutions or to increase the likelihood that desirable solutions has been verified with high confidence.

In response, the current language of claim 29 only requires that the system contain a component that submits queries and selects queries, which Lynch'094 discloses in col. 6, lines 10-col. 7, line 6. The additional limitations (i.e. to increase the number or to increase the likelihood . . .) included in claim 29 merely describe the reasons why the system might perform the steps of submitting and selecting queries, but do not impart additional functionality to the claimed system. Moreover, one of ordinary skill in the art would have understood that additional queries to CRS's (even to update the inventory data) would increase the likelihood that availability data obtained is

Art Unit: 3626

more accurate and would therefore increase the likelihood that the availability of the desirable solutions is reliable (i.e. verified with a high degree of confidence).

(I) On page 8, lines 24-26 of the Applicant's response, the Applicant argues that Lynch does not disclose that multiple responses containing data of different quality properties or different availability information are simultaneously maintained in the travel planning system.

In response, Lynch'094 teaches the travel planning system of claim 1 wherein multiple responses, which contain different availability information, and/or quality properties are simultaneously maintained in the travel planning system. (col. 4, lines 6-41; col. 6, lines 11-38) The inventory database maintains information on travel service inventory, available fare classes, carriers providing service, and description of available service types. (i.e. different quality properties/different availability information from various computer reservation systems (multiple responses)).

The Applicant fails to appreciate the vast breadth of the claim current claim language. Claim 30 does not provide a definition or description of which qualities are maintained by the system, and the Applicant fails to point to any specific sections of the specification that define the term "quality properties." Therefore, the Examiner has given the claim language the broadest reasonable interpretation.

(J) One page 8, line 29-page 9, line 9, the Applicants argue that the combination of Lynch'094 in view of Official Notice in the rejection of claim 28 is improper because the use of confidence intervals could not be incorporated into the system disclosed by Lynch'094.

In response to applicant's argument that confidence intervals could not be used in the system of Lynch'094, the test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981).

The Lynch'094 reference was relied upon to disclose the limitations of claim 1 and to teach the use of genetic algorithms to sift through possible solutions (candidate pools) to determine the fitness of various travel options (i.e. solution) (col. 6, lines 41-56). The Examiner has relied on Official Notice only to explain that the use of confidence intervals (e.g. "probabilistic confidence bounds describing uncertainty in measurements") are commonly used in mathematic/probability calculation results. While Lynch'094 does not specifically disclose the use of "probabilistic confidence bounds describing uncertainty in measurements" for the fitness of the solutions, one having ordinary skill in the art at the time of the Applicant's invention would have found it obvious to include such confidence intervals in the calculation results (i.e. determining the fitness of travel solutions) performed by the system of Lynch'094. One would have been motivated to include the use of confidence intervals to monitor the accuracy and reliability of the obtained data.

(K) On page 9, lines 14-18, the Applicants argue that the two references (Lynch'094 and Lynch'114) do not meet the limitations of claim 5 because they do not teach or

suggest that the different sources of predicted availability information have different fixed or modular costs associated with obtaining the information

In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., the different sources of *predicted* seat availability information have differing fixed and *modular* costs) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Moreover, the test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; *nor is it that the claimed invention must be expressly suggested in any one or all of the references*. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981). Lynch'094 discloses a system that accesses different sources of availability data (col. 6, lines 22-38), but does not does not specifically teach that there are different costs associated with accessing the different sources of seat availability information. The Lynch '114 reference was relied upon to disclose that it is well known in the art that different costs (e.g. monetary and computational costs) are associated with obtaining information from different sources of seat availability data (e.g. proprietary CRS's). (col. 1, lines 19-38) The fact there are different costs associated with different CRS's is evidenced by the fact that the system calculates which source of seat availability data will optimize the hits-to-bookings ratio for the user

Art Unit: 3626

and thereby lower the costs or fees charged to user. (column 1, lines 26-38; col. 2, lines 31-38) The system stores the target hits-to-booking ratio (i.e. threshold) for each availability source and determines whether that source should be accessed based on its target hits-to-booking ratio (figure 3; col. 6, lines 4-10). At the time of the applicants' invention, it would have been obvious to one of ordinary skill in the art that the sources of availability data in the system of Lynch '094 would have different costs (i.e. fixed/marginal costs including time, communication, computation, and monetary costs) associated with accessing seat availability data to ensure that the various CRS providers are fairly compensated for the use and maintenance of their data systems.

(L) On page 9, line 23-page 10, line 2 of the Applicant's response, the Applicant argues that the combination of Lynch'094 in view of Walker is improper because Walker does not disclose querying multiple sources of predicted availability data.

In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). Lynch'094, the primary reference, discloses querying a plurality of availability data sources that have different data quality properties associated the replies generated from the queries. The freshness of the data (i.e. the time that has elapsed since the inventory data was obtained) varies for the sources. (Figure 3, column 6, lines 11-17). Lynch'094 did not teach that the sources of seat availability data were sources of *predicted availability information*. The Walker reference was relied upon to teach that

Art Unit: 3626

the use of forecasted inventory data (i.e. predicted availability information) from a predicted availability source (e.g. RMS) for arranging and pricing travel/ transportation options is well known in the art. (col. 6, lines 9-26). The combination of Lynch'094 and Walker was relied upon to provide the obviousness rejection of claim 9. The test for obviousness is not that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981). At the time of the Applicant's invention, one having ordinary skill in art would find it obvious to modify the system of Lynch'094 with the teaching of Walker to include sources of predicted availability information (i.e. forecasted inventory data) among the sources queried to determine travel options in response to a user's query. One would have been motivated to include forecasted inventory data among the data provided by the availability sources to permit travel service providers (e.g. airlines) to post travel information for travelers/agents to review and/or select while minimizing system downtime required by constant updates with real-time availability data.

(M) On page 9, lines 3-9 of the response filed on 2/11/03, the Applicant argues that claim 14 is patentable over Lynch'094 in view of Slotznick, because Slotznick does not teach an intelligent client for processing and integrating scheduling and fare information and availability data in a travel planning system.

In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections

Art Unit: 3626

are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). The Lynch'094 provides a travel planning system as set forth in claim 1 while the Slotznick reference was relied upon to disclose the use of an intelligent client (agent) to accomplish delegated tasks such as preparing and arranging travel reservations. (i.e. further processing and integration of travel data) (column 13, lines 1-23). At the time of the applicants' invention, it would have been obvious to one of ordinary skill in the art to modify the system taught by Lynch'094 with the teachings of Slotznick so that the client computer (i.e. travel agency workstation) functions as an intelligent client which can further process and integrate the travel planning data and schedule travel arrangements. As suggested by Slotznick, one would have been motivated to do this to speed the execution of tasks and to ensure that accumulated pertinent data (e.g. traveler preferences) are incorporated in travel planning process. (column 3, lines 45-50), thereby making the travel planning system and method of Lynch'094 faster and more efficient.

Claim Rejections - 35 USC § 102

11. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States

Art Unit: 3626

only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

12. Claims 15, 19,21,22 and 26 are rejected under 35 U.S.C. 102(e) as being anticipated by Lynch et al US Patent No. 6,119,094—referred to hereinafter as Lynch '094) for substantially the same reasons provided in the previous Office. Further reasons are provided below.

(A) Claim 15 has been amended to recite that the instructions cause a computer to: determine quality of the availability information of a first source of availability information to guide a travel planning system to determine a subsequent set of available instances of transportation, (See Lynch'094:column 2, lines 60-65; figure 3, column 6, lines 11-61, col. 7, lines 46-49; col. 9, lines 11-30), and if the quality of the availability information is low, the availability process executes a second set of seat availability queries to the first or a different source of seat availability information to provide a second set of available instances of transportation. (See Lynch'094: col. 6, lines 10-61)

In the method disclosed by Lynch, the age of the information is evaluated to determine whether or not a predetermined time period has lapsed since the information was last obtained. (i.e. evaluating quality properties of the availability data) (figure 3, column 6, lines 11-17). The update module (i.e. an availability process) may then update the stored availability data by querying the one or more of the CRS's if the stored data if the predetermined time period has elapsed (i.e. executing a second set of seat availability queries to the first or a different source of seat availability based on the outcome of evaluating quality of the availability information.) (figure 3, col. 6, lines 10-57).

Art Unit: 3626

(B) Claim 19 has not been amended beyond the changes made to the changes made to claim 15, and is therefore rejected for the same rationale provided in the rejection of claims 15 and 19 in the previous Office Action (Paper No. 8), and as further explained in by the rejection of claim 15 in the present Office Action, and incorporated herein.

(C) Claim 21 has been amended to additionally recite; "determining a subsequent set of available instances of transportation by executing a second set of seat availability queries to the first or a different source of seat availability information based on the outcome of the evaluating quality of the availability information to provide the subsequent set of available instances of transportation." (See Lynch'094: column 6, lines 11-57; col. 7, lines 29-32, 46-49; col. 9, lines 11-30) The age of the information is evaluated to determine whether or not a predetermined time period has lapsed since the information was last obtained. (i.e. evaluating quality properties of the availability data) (figure 3, column 6, lines 11-17). The update module (i.e. an availability process) may then update the stored availability data by querying the one or more of the CRS's if the stored data if the predetermined time period has elapsed (i.e. executing a second set of seat availability queries to the first or a different source of seat availability base on the outcome of the evaluating quality of the availability information.) (figure 3, col. 6, lines 10-57).

(D) The amendment made to claim 22 corrects a grammatical error, but does not alter the Examiner's previous interpretation of the claim for the purposes of applying art. As such, claim 22 is rejected using the same rationale applied in the previous office

Art Unit: 3626

action, and as further explained by the rejection of claim 21 in the present Office Action and incorporated herein.

(E) In reference to claim 26, the limitations of this claim are addressed by the rejections of claims 19 and 21 in the previous Office Action, and as further explained in the present Office Action, and incorporated herein.

Claim Rejections - 35 USC § 103

13. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

14. Claims 1-4, 11,13,16,23,29 and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lynch '094 for substantially the same reasons provided in the previous Office Action (Paper No. 8). Further reasons are provided below.

(A) Claim 1 has been amended to recite that the system uses the results from a first source of seat availability data for a mode of transportation (See Lynch'094: col. 6, lines 41-56; col. 7, lines 8-20; lines 29-32; col. 9, line 47-col. 10, line 5.)

Claim 1 has been further amended to recite that the system "determines, based on quality properties, whether the first source of availability information reliable, and if the results are not reliable, the availability process executes a second set of availability queries to the first or a different source of seat availability information based on the

Art Unit: 3626

outcome of the test to provide a second set of available instances of transportation”.

(See Lynch’094: col. 2, lines 60-65; col. 6, lines 22-38; Figure 3) Lynch’094 reference states that the system determines the age of the availability data and also determines how well the availability data meet the certain parameters entered by the user (col. 6, lines 10-61). In other words, the system determines the age (e.g. reliability) and fitness or usefulness of the availability data—two qualities of the availability data. Moreover, the system submits subsequent queries to one or more CRS’s (i.e. the first or a different source seat availability data) based on the outcome of a test (i.e. the evaluation of the whether the availability data is too old and therefore unreliable) to provide a second set of available instances of transportation (i.e. the results returned from the updated queries).

Lynch’094 teaches a system with at least one component to perform the recited functionalities of the availability component. However, Lynch’094 does not expressly disclose whether a single component performs all of the recited functions or whether these functions are carried out by more than one component. However, at the time of the Applicant’s invention, it would have been obvious to one of ordinary skill in the art to modify the system of Lynch’094 to have the functions are performed by a single (availability) component. One would have been motivated to do this to maximize the use of each component in a system with limited resources.

(B) Claim 2 has been amended to recite a system wherein the availability component determines whether the source of availability information is reliable, and if the results are reliable, the availability component returns the results (See Lynch’094, col. 6, lines

Art Unit: 3626

41-col. 7, line 5). A component of the system determines whether a predetermined time period has elapsed since the data in system inventory database has been obtained (i.e. determining whether the data is outdated/not reliable), but only updates the results when the data is deemed unreliable (i.e. outdated). The system further processes the returned data to determine the fitness of the travel data as a solution if the time period has not elapsed. (i.e. results are reliable)

(C) Claim 3 has been amended to recite a system wherein to execute a second set of seat availability queries to the first or a different source, the availability process makes multiple, sequential queries to the first source or a different source of seat availability information. (See Lynch'094: column 6, lines 11-38; lines 56-57) The system executes the second set of queries when it is determined that data in the inventory database is too old. The system repeats the data query process by querying the one or more CRS's (i.e. the first or a different source of seat availability data).

(D) Claim 4 has been amended to be directly dependent from claim 1 and has further been amended to recite "wherein to execute a second set of seat availability queries the availability process makes multiple, simultaneous queries to multiple sources of seat availability information." (See Lynch'094: column 6, lines 11-38; lines 56-57) The system executes the second set of queries when it is determined that data in the inventory database is too old. The system repeats the data query process by querying the one or more CRS's either simultaneously or sequentially (i.e. the first or a difference source of seat availability data).

(E) As per claim 11, Lynch'094 teaches a system wherein a system component speculatively determines travel options using low-quality, uncertain or missing data as though it were high quality data. Lynch'094 reference discloses that speculative calculations (i.e. genetic algorithms) are used to develop a variety of possible travel options (speculative travel options) based loosely upon a user's travel request. (column 7, lines 29-45). The system then sifts through a plurality of candidate pool solutions of varying degrees of fitness and evaluates the fitness of the solutions in the candidate pool. In other words, data of high and low quality (i.e. high and low degrees of fitness) may be identified as possible solutions/options by the system and are both subjected to the sifting process to identify and/or refine additional travel solution sets. Thus, low quality data is treated as though it were high quality data.

While the Lynch'094 reference teaches a system with at least one component to perform the recited functionalities of the availability component, it does not expressly state whether a single component (i.e. an availability process) performs all of the recited functions or whether these functions are carried out by more than one component. However, one having ordinary skill in the art at the time of the Applicant's invention would have found it obvious to modify the system of Lynch'094 to have the functions are performed by a single (availability) component as explained in the rejection of claim 1.

(F) As per claim 13, Lynch'094 teaches a system wherein the speculative determination of travel options is used to decide what quality of data are needed/ what additional queries should be issued.(col. 6, lines 41-57; col. 7, lines 29-col. 8, line 10). The genetic algorithms are used to produce a set of parameters that are used to identify

Art Unit: 3626

travel arrangements that may be suitable for a customer. Thus, the genetic algorithms help identify which availability queries will yield the most appropriate solutions and which are of higher quality (i.e. yield results that most closely match the customers travel request.)

(G) Claim 16 has been amended to recite: "instructions to send seat availability queries to a different higher quality source [of] seat availability information if the results from the first source are low quality." Lynch'094 teaches a computer program product comprising instructions to send seat availability queries to a one or more computer reservation systems (sources of seat availability information) if the information is outdated (i.e. results from first source(s) are not reliable). (column 6, lines 22-25). Lynch'094 does not expressly disclose whether the system queries the same or different source(s) of seat availability information, but the system does repeatedly query various sources for seat availability data. (col. 6, lines 22-38) At the time of the Applicant's invention, it would have been obvious to one of ordinary skill in the art to query one or more different sources of seat availability information (i.e. sources of higher quality) if the results from the first are of low quality (i.e. unreliable). As suggested by Lynch'094, one would have been motivated to do this to maximize the likelihood that the system will identify a plurality of (low-cost) travel arrangements to be offered to a customer while minimizing the involvement of a travel agent. (col. 1, lines 66-col. 2, line 2, lines 19-22).

(H) In reference to claim 23, the limitations of this claim are addressed by the rejections of claims 16 and 21, and incorporated herein.

Art Unit: 3626

(I) Claim 29 has been amended to recite "wherein the actual availability queries that are sent to a source of airline seat availability information are selected to increase the number of available solutions found (See Lynch'094: col. 6, lines 25-38; lines 56-57) or to increase the likelihood that the availability of the desirable solutions has been verified with a high degree of confidence." (See Lynch'094: col. 6, lines 37-57; col. 7, line 29-col. 8, line 18)" The system executes the second set of queries when it is determined that data in the inventory database is too old. The system of Lynch'094 also searches multiple reservation systems, thereby increasing the number of available solutions. Furthermore, the system of Lynch'094 repeatedly updates availability data stored in the inventory database, tests the fitness of solutions, and sifts through a plurality of candidate pools, thereby increasing the likely that the information (the desirable solutions) is accurate. (i.e. has been verified with high confidence)

(J) Claim 30 has not been amended beyond the changes made to independent claim 1. As such, claim 30 is rejected for the same reasons provided in the rejection of claims 1 and 30 in the previous Office Action (Paper No. 8) and as further explained by the rejection of claim 1 in the present Office Action, and incorporated herein.

15. Claim 28 is rejected under 35 U.S.C. 103(a) as being unpatentable over by Lynch et al (US Patent No. 6,119,094-- referred to as Lynch '094) in view of Official Notice.

(A) Claim 28 has not been amended beyond the changes made to independent claim 1. As such, claim 28 is rejected for the same reasons provided in the rejection of

Art Unit: 3626

claims 1 and 28 in the previous Office Action (Paper No. 8) and as further explained by the rejection of claim 1 in the present Office Action, and incorporated herein.

16. Claims 5-8, 10, 18, 20, 25, and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lynch'094 in view of Lynch et al (US Patent No. 5,839,114—referred to hereinafter as Lynch'114).

(A) Claims 5-8 and 10 have not been amended beyond the changes made to their independent claim, claim 1. As such, claims 5-8 and 10 are rejected for the same reasons given in the previous Office Action (Paper No. 8), and as further explained by the rejection of claim 1 in the previous and present Office Actions, and incorporated herein.

(B) Claims 18 and 20 have not been amended beyond the changes made to their independent claim, claim 15. As such, claims 18 and 20 are rejected for the same reasons given in the previous Office Action (Paper No. 8), and as further explained by the rejection of claim 15 in the previous and present Office Actions, and incorporated herein.

(C) Claims 25 and 27 have not been amended beyond the changes made to their independent claim, claim 21. As such, claims 25 and 27 are rejected for the same reasons given in the previous Office Action (Paper No. 8), and as further explained by the rejection of claim 21 in the previous and present Office Actions, and incorporated herein.

17. Claim 9, 17 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lynch'094 as applied to claim 1 in view of Walker et al (US Patent No. 5,897,620—referred to hereinafter as Walker).

(A) Claim 9 has been amended to be directly dependent from claim 1. Claim 9 has also been amended to recite: “wherein the first or a different source of seat availability information is a source of predicted availability information...” Lynch '094 teaches the system of claim 1 as explained in the rejection of claim 1. Lynch'094 does not specifically disclose that the sources of availability data are sources of predicted availability information, but does teach querying a plurality of availability data sources that have different data quality properties associated the replies generated from the queries. (Figure 3, column 6, lines 11-17) The freshness of the data (i.e. the time that has elapsed since the inventory data was obtained) varies for the sources. Walker teaches that the use of forecasted inventory data (i.e. predicted availability information) from a predicted availability source (e.g. RMS) for arranging and pricing travel/ transportation options is well known in the art. (col. 6, lines 9-26). At the time of the Applicant's invention, it would have been obvious to one of ordinary skill in the art to include predicted availability information (i.e. forecasted inventory data) among the availability sources queried to determine a set of potential travel options for a user in the system of Lynch'094. One would have been motivated to include forecasted inventory data to permit travel service providers (e.g. airlines) to post travel information for users to review and/or select while minimizing system downtime required by constant updates with real-time availability data.

Art Unit: 3626

(B) Claim 17 has not been amended beyond the changes made to its independent claim, claim 15. As such, claim 17 is rejected for the same reasons given in the previous Office Action (Paper No. 8), and as further explained by the rejection of claim 15 in the previous and present Office Actions, and incorporated herein.

(C) Claim 24 has not been amended beyond the changes made to its independent claim, claim 21. As such, claim 24 is rejected for the same reasons given in the previous Office Action (Paper No. 8), and as further explained by the rejection of claim 21 in the previous and present Office Actions, and incorporated herein.

18. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lynch'094 as applied to claim 1 in view of Hornick (US Patent No. 5,270,921).

As per claim 12, Lynch'094 discloses a system wherein travel options are speculatively determined using low quality data as though it were high quality data, but does not specifically teach that the low quality data are guessed at or computed internal to the travel planning process. Hornick discloses a system wherein availability data are computed or guessed internal to the travel planning process. (col. 2, lines 41-53; col. 6, lines 57-62) At the time of the Applicant's invention, it would have been obvious to one of ordinary skill in the art to modify the system of Lynch'094 with the teaching of Hornick to include the projected (i.e. computed or guessed at) availability data for use in the travel planning process. One would have been motivated to do this so that travel providers could offer customers a large selection of potential travel options while accounting for the probabilistic and complex nature of demand, to maximize travel revenue. (Hornick: col. 2, lines 21-53)

Art Unit: 3626

19. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lynch'094 in view of Slotznick (US 5,983,200).

(A) Claim 14 has not been amended beyond the changes made to independent claim 1. As such, these limitations are rejected under the same rationale given in the previous Office Actions (Paper No. 4 and 8), and as further explained by the rejection of claim 1 in the previous and present Office Actions, and incorporated herein.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rachel L. Porter whose telephone number is 703-305-0108. The examiner can normally be reached on M-F, 9:30-6:00.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph Thomas can be reached on (703)305-9588. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 305-7687 for regular communications and (703) 305-7687 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1113.

RP

RP

May 5, 2003


ALEXANDER BARANOWSKI
PATENT EXAMINER
Art Unit 3626